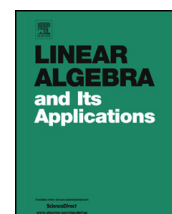


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Linear Algebra and its Applications

www.elsevier.com/locate/laaOrbit representations from matrices[☆]C. Correia Ramos^a, Nuno Martins^b, Paulo R. Pinto^{b,*}^a *Centro de Investigação em Matemática e Aplicações, Department of Mathematics, Universidade de Évora, R. Romão Ramalho, 59, 7000-671 Évora, Portugal*^b *Department of Mathematics, CAMGSD, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais 1, 1049-001 Lisboa, Portugal*

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ABSTRACT

Each Markov interval map f naturally produces a transition 0–1 matrix of interval type (in every row, the entries equal to 1 should be consecutive). We show that any 0–1 matrix A can be transformed into an interval type matrix A_I , by a careful use of the state splitting. We then prove that A_I can be realized as a transition matrix of an interval map $f_{A_I, \lambda_{A_I}}$ arising from the Perron–Frobenius eigenvalue λ_{A_I} and eigenvector of A_I . Finally, we construct orbit representations associated with A from those of A_I arising from the dynamical system $([0, 1], f_{A_I, \lambda_{A_I}})$.

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